

Amendments to the Claims:

1. (Original) An amino acid wherein the sidechain of said amino acid is isotopically enriched with 2H and wherein the backbone of said amino acid is isotopically enriched with an isotope selected from the group consisting of 13C, 15N, 2H and any combination thereof, with the proviso that said amino acid is not isotopically enriched with 2H at every hydrogen.

2. Canceled.

3. (Original) An amino acid of claim 1, wherein the α -carbon proton of said amino acid is isotopically enriched with 2H.

4. (Withdrawn) A method of synthesizing the amino acid of claim 1, which comprises:

(a) obtaining glycine that optionally is isotopically enriched in the backbone with an isotope selected from the group consisting of 13C, 15N and 2H or any combination thereof;

(b) chemically derivatizing said glycine;

(c) adding a deuterated side chain to said chemically derivatized glycine in a stereo-selective manner to produce a protected sidechain deuterated amino acid; and

(d) deprotecting said sidechain deuterated amino acid.

5. (Currently Amended) A method of synthesizing the amino acid of claim [[2]]1, which comprises:

(a) obtaining glycine that optionally is isotopically enriched in the backbone with an isotope selected from the group consisting of 13C, 15N and 2H or any combination thereof;

- (b) chemically derivatizing said glycine;
- (c) adding a deuterated side chain to said chemically derivatized glycine in a stereo-selective manner to produce a protected sidechain deuterated amino acid;
- (d) deuterating the α -carbon of said protected sidechain deuterated amino acid; and
- (e) deprotecting said sidechain deuterated amino acid.

6. (Original) A peptidic molecule which comprises at least one amino acid of claim 1.

7. (Currently Amended) A peptide molecule which comprises at least one amino acid of claim [[2]]1.

8. (Original) A peptide molecule which comprises at least one amino acid of claim 3.

9. (Original) A peptide molecule which comprises at least one species of amino acid wherein the side chain of each occurrence of said species of amino acid is isotopically enriched with 2H.

10. (Original) A peptide molecule of claim 9, wherein the backbone of each occurrence of said species of amino acid is isotopically enriched with an isotope selected from the group consisting of 13C, 15N, 2H and any combination thereof.

11. (Original) A peptide molecule of claim 9, wherein the α -carbon proton of each occurrence of said species of amino acid is isotopically enriched with 2H.

12. (Withdrawn) A medium capable of supporting the growth of cells in culture which comprises at least one amino acid of claim 1.

13. (Withdrawn) A medium capable of supporting the growth of cells in culture which comprises at least one amino acid of claim 2.

14. (Withdrawn) A medium capable of supporting the growth of cells in culture which comprises at least one amino acid of claim 3.

15. (Withdrawn) A method of producing an isotopically labeled peptide molecule, which comprises:

(a) providing a medium of claim 12;

(b) providing a cell culture that expresses said peptide molecule;

(c) growing said cell culture in said medium under protein-producing conditions such that said cell expresses said peptide molecule in isotopically labeled form; and

(d) isolating said isotopically labeled peptide molecule from said medium.

16. (Withdrawn) A method of producing on isotopically labeled peptide molecule, which comprises:

(a) providing a medium of claim 13;

(b) providing a cell culture that expresses said peptide molecule;

(c) growing said cell culture in said medium under protein-producing conditions such that said cell expresses said peptide

molecule in isotopically labeled form; and

(d) isolating said isotopically labeled peptide molecule from said medium.

17. (Withdrawn) A method of producing on isotopically labeled peptide molecule, which comprises:

(a) providing a medium of claim 14;

(b) providing a cell culture that expresses said peptide molecule;

(c) growing said cell culture in said medium under protein-producing conditions such that said cell expresses said peptide molecule in isotopically labeled form; and

(d) isolating said isotopically labeled peptide molecule from said medium.

18. (Withdrawn) A method of determining structural information for a peptidic molecule, which comprises:

(a) producing said peptidic molecule according to the method of claim 15; and

(b) subjecting said peptidic molecule to nuclear magnetic resonance.

19. (Withdrawn) A method of determining structural information for a peptidic molecule, which comprises:

(a) producing said peptidic molecule according to the method of claim 16; and

(b) subjecting said peptidic molecule to nuclear magnetic resonance.

20. (Withdrawn) A method of determining structural information

for a peptidic molecule, which comprises:

(a) producing said peptidic molecule according to the method of claim 17; and

(b) subjecting said peptidic molecule to nuclear magnetic resonance.